Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing: of Claims:

1. (currently amended) A computer-implemented method of inserting a plurality of entries into an existing index keyed by multidimensional data, comprising:

selecting nodes of the index each <u>of the selected nodes of the index</u> having entries, wherein the selection <u>of the nodes of the index</u> is based on that the <u>selected</u> nodes of the index ~~would~~ overlap when the plurality of entries are inserted into a first one of the <u>selected</u> nodes of the index, wherein the selected nodes of the index are sibling nodes;

<u>selecting the first one of nodes of the index to insert</u> ~~inserting~~ the <u>plurality of</u> entries within the first one of the <u>selected</u> nodes of the index;

<u>inserting the plurality of entries within the first one of the selected nodes of the index;</u>

partitioning the entries of the first one of the selected nodes into groups to reduce overlap, wherein each group of entries corresponds to a partitioned node of the index; and

reorganizing a second one of the selected nodes of the index and the partitioned nodes, wherein said reorganizing includes reorganizing the entries in each of the second one of the selected nodes and the partitioned nodes <u>to reduce</u> ~~such that~~ overlap ~~is reduced~~.

2. (cancelled)

3. (previously presented) The method according to claim 1, wherein:

the entries include spatial data; and the index keyed by multidimensional data includes a

spatial index.

4. (previously presented) The method according to claim 1, wherein the sibling nodes are

for a R-Tree index.

5. (cancelled)

6. (currently amended) A computer-implemented method of inserting a plurality of

entries into a ~~an existing spatial~~ index, comprising:

selecting at least two and less than all children of a node in the spatial index,

each of the selected children having entries, wherein the selection is based on that the

selected children of the node overlap when the plurality of entries are distributed within a

first one of the selected children of the <u>node in the spatial</u> index, and wherein the selected

children of the <u>node in the spatial</u> index are sibling;

distributing the <u>plurality</u> entries within a first one of the selected children;

partitioning the entries of the first one of the selected children into groups to

reduce overlap, wherein each group of entries corresponds to a partitioned child of the

<u>node in the spatial</u> index; and

reorganizing the partitioned children and a second one of the selected children, wherein the reorganizing includes reorganizing the distribution of the entries in each of the second one of the selected children and the partitioned children.

7. (currently amended) The method according to claim 6, wherein said reorganizing includes reorganizing ~~such that~~ to reduce overlap of bounding boxes for objects in the spatial index ~~is reduced~~.

8. (previously presented) The method according to claim 7, wherein one of the bounding boxes includes a minimum bounding rectangle (MBR).

9. (previously presented) The method according to claim 6, wherein at least two of the selected children have respective bounding boxes that overlap with one another.

10. (previously presented) The method according to claim 6, wherein said selecting includes selecting exactly two of the children.

11. (previously presented) The method according to claim 10, wherein the exactly two of the children have respective bounding boxes that overlap with one another.

12. (cancelled)

13. (cancelled)

14. (currently amended) A computer-implemented method of inserting a plurality of entries into an existing multidimensional-keyed index organized as an R-Tree, comprising:

associating a node in the R-tree with a buddy node that is a sibling of the node;

clustering children of the node and the children of the buddy node, each of the children having entries~~, wherein the selection of the children is based on that the children would overlap when the plurality of entries are distributed within a first one of the selected children~~;

partitioning the <u>clustered</u> entries of the ~~clustered children of the~~ node and the buddy node into a plurality of groups<u>, wherein each entry of the node and buddy node corresponds to a child node, and</u> wherein at least one of the groups includes a child node of the ~~clustered children of the~~ node and the buddy node, a buddy child node associated the child node, and one or more of the plurality of entries, said partition is performed ~~so that~~ <u>to reduce</u> overlap among bounding boxes associated with the groups ~~is reduced~~;

inserting said one or more of the plurality of entries among the child node and the buddy child node associated the child node; and

reorganizing the child node and the buddy child node associated the child node, wherein the reorganizing includes reorganizing the distribution of the entries in each of the child node and the buddy child node associated the child node.

15. (currently amended) The <u>method</u> according to claim 14, wherein:

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each node of the R-tree is associated with a respective bounding box; and

a first bounding box associated with the child node overlaps a second bounding box associated with the buddy child node.

16. (cancelled)

17. (cancelled)

18. (currently amended) A computer-readable storage medium storing instructions for inserting a plurality of entries into an existing index keyed by multidimensional data, said instructions arranged, upon execution by at least one processor, to perform the steps of:

selecting nodes of the index each of the selected nodes of the index having entries, wherein the selection of the nodes of the index is based on that the selected nodes of the index would overlap when the plurality of entries are inserted into a first one of the selected nodes of the index, wherein the selected nodes of the index are sibling nodes;

selecting the first one of nodes of the index to insert inserting the plurality of entries within the first one of the selected nodes of the index;

inserting the plurality of entries within the first one of the selected nodes of the index;

partitioning the entries of the first one of the selected node into groups to reduce overlap, wherein each group of entries corresponds to a partitioned node of the index; and

reorganizing a second one of the selected nodes of the index and the partitioned

nodes, wherein said reorganizing includes reorganizing the entries in each of the second

one of the selected nodes and the partitioned nodes <u>to reduce</u> ~~such that~~ overlap ~~is reduced~~.

19. (currently amended) A computer-readable storage medium storing instructions for

      inserting a plurality of entries into an existing spatial index, said instructions

arranged, upon execution by at least one processor, to perform the steps of:

      selecting at least two and less than all children of a node in the spatial index each

of the selected children having entries, wherein the selection is based on that the selected

children of the node overlap when the plurality of entries are distributed within a first one

of the selected children of the <u>node in the spatial</u> index, and wherein the selected children

of the <u>node in the spatial</u> index are sibling;

      distributing the entries within a first one of the selected children;

      partitioning the entries of the first one of the selected children into groups to

reduce overlap, wherein each group of entries corresponds to a partitioned child of the

<u>node in the spatial</u> index; and

      reorganizing the partitioned children and a second one of the selected children,

wherein the reorganizing includes reorganizing the distribution of the entries in each of

the second one of the selected children and the partitioned children such that overlap of

bounding boxes is reduced.

20. (currently amended) A computer-readable <u>storage</u> medium bearing instructions for

inserting a plurality of entries into existing multidimensional-keyed index organized as an

R-Tree, said instructions arranged, upon execution by at least one processor, to perform

the steps of:

associating a node in the R-tree with a buddy node that is a sibling of the node;

clustering selected children of the node and the children of the buddy node, each

of the selected children having entries, ~~wherein the selection of the children is based on~~

~~that the selected children overlap when the plurality of entries are distributed within a~~

~~first one of the selected children~~;

partitioning the <u>clustered</u> entries of the node and the buddy node into a plurality of

groups, <u>wherein each entry of the node and buddy node corresponds to a child node,</u> <u>and</u>

wherein at least one of the groups includes a child node of the ~~clustered children of the~~

node and the buddy node, a buddy child node associated the child node, and one or more

of the plurality of entries, said partition is performed ~~so that~~ <u>to reduce</u> overlap among

bounding boxes associated with the groups ~~is reduced~~;

inserting said one or more of the plurality of entries among the child node and the

buddy child node associated the child node; and

reorganizing the child node and the buddy child node associated the child node,

wherein the reorganizing includes reorganizing the distribution of the entries in each of

the child node and the buddy child node associated the child node.